

SECTION 02271

RIPRAP

PART 1 GENERAL

1.01 SCOPE

- A. This Section includes riprap products and placement.

1.02 RELATED SECTIONS AND PLANS

- A. Section 02100 - Surveying
- B. Section 02200 - Earthwork
- C. Section 02270 - Erosion and Sediment Control
- D. Section 02714 - Geotextiles
- E. Part 8 - Environmental Health and Safety, and Training Requirements

1.03 REFERENCES

- A. Latest version of Ohio Department of Transportation Construction and Material Specifications (Ohio DOT Specifications).
- B. Latest version of American Society for Testing and Materials (ASTM) Standards.
 - 1. ASTM C 127. Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate.
- C. *"Off-Site Borrow Materials Geotechnical Evaluation Report"*, (Revision O), prepared by Parsons, June 1996. This report presents geotechnical data for potential off-site borrow sources for OSDF construction materials, including fine and coarse concrete aggregates, pea gravel, and riprap.

1.04 SUBMITTALS

- A. Submit the following to the Construction Manager within 15 calendar days from Notice to Proceed for review and approval.
 - 1. the source of the riprap; and
 - 2. certification from the supplier that the riprap meets the material requirements of this Section to include test results conducted on a representative riprap sample in accordance with ASTM C 127.
- B. Include list of equipment and description of construction methods to be used for riprap construction in the Earthwork Work Plan specified in Section 02200.

1.05 HEALTH AND SAFETY REQUIREMENTS

- A. Environmental, health and safety, and other training requirements shall be as specified in Part 8 of the Contract Documents.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Furnish stone used for riprap consisting of field stone, rough unhewn quarry stone, or excavated rock with angular or fractured faces.
- B. Furnish stone used for riprap having a minimum bulk specific gravity of 2.60 and a maximum absorption of 0.83 percent when measured in accordance with ASTM C 127.
- C. Furnish riprap conforming to requirements of Type C dumped rock fill as specified in Item 601 of the Ohio DOT Specifications.
- D. Furnish geotextile separator as specified in Section 02714 and as shown on the Construction Drawings.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place riprap to the thicknesses, elevations, and locations shown on the Construction Drawings and for ditch check dams in accordance with Section 02270.
- B. Place riprap upon geotextile separator or prepared subgrade as shown on the Construction Drawings. Geotextiles shall be shingled downgradient and may be overlapped a minimum of 2 feet or sewn.
- C. Carefully place riprap to avoid segregation or damage of the underlying material. Place the material in such a manner as to produce a uniform mass of riprap with the minimum practicable percentage of voids. Distribute the larger pieces throughout the entire mass such that the finished riprap is free from non-uniform areas of small or large pieces. Hand placing, to a limited extent, may be required, but only to the extent necessary to obtain the results specified above.
- D. Do not place riprap by dumping into chutes or by similar methods likely to cause segregation of various sizes.
- E. Do not place riprap in a manner that causes damage to an underlying geotextile separator. Repair damaged geotextile in accordance with Section 02714.

3.02 SURVEY CONTROL

- A. Survey the limits of the riprap in accordance with Section 02100.

3.03 TOLERANCE

- A. Construct the riprap to within 0.0 to +0.3 feet of the thicknesses shown on the Construction Drawings.
- B. Construct the riprap to within 0.0 to +0.5 feet of the grades indicated on the Construction Drawings.

[END OF SECTION]